Translation

PATENT COOPERATION TREATY

PCT/JP2003/011402

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

04 MAR 2005

Applicant's or agent's file reference R-27	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/JP2003/011402	International filing date (*day/month/year*) 08 September 2003 (08.09.2003)	Priority date (*day/month/year*) 09 September 2002 (09.09.2002)
International Patent Classification (IPC) or national classification and IPC A61K 31/5575, 9/08, 47/18, 47/34, 47/10, 47/26, A61P 27/06		
Applicant SANTEN PHARMACEUTICAL CO., LTD.		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 5 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

   a. ☐ *(sent to the applicant and to the International Bureau)* a total of _____ sheets, as follows:

      ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

      ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

   b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- ☒ Box No. I Basis of the report
- ☐ Box No. II Priority
- ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
- ☒ Box No. IV Lack of unity of invention
- ☒ Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
- ☒ Box No. VI Certain documents cited
- ☐ Box No. VII Certain defects in the international application
- ☐ Box No. VIII Certain observations on the international application

Date of submission of the demand	Date of completion of this report
01 March 2004 (01.03.2004)	17 June 2004 (17.06.2004)
Name and mailing address of the IPEA/JP Facsimile No.	Authorized officer Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

national application No.
PCT/JP2003/011402

Box No. I Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:

☐ international search (under Rules 12.3 and 23.1(b))

☐ publication of the international application (under Rule 12.4)

☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☒ The international application as originally filed/furnished

☐ the description:

pages _____, as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the claims:

pages _____, as originally filed/furnished

pages* _____, as amended (together with any statement) under Article 19

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the drawings:

pages _____, as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing *(specify)*: _____

☐ any table(s) related to sequence listing *(specify)*: _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing *(specify)*: _____

☐ any table(s) related to sequence listing *(specify)*: _____

* *If item 4 applies, some or all of those sheets may be marked "superseded."*

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/JP03/11402

Box No. IV Lack of unity of invention

1. ☐ In response to the invitation to restrict or pay additional fees the applicant has:

   ☐ restricted the claims.

   ☐ paid additional fees.

   ☐ paid additional fees under protest.

   ☐ neither restricted nor paid additional fees.

2. ☒ This Authority found that the requirement of unity of invention is not complied with and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

   ☐ complied with.

   ☒ not complied with for the following reasons:

The matter common to claims 1-8 is eye drops having (a) latanoprost as the active ingredient and (b) benzalkonium chloride mixed therein as a preservative.

The result of the search, however, shows that these eye drops are disclosed in documents WO, 97-23225, A1 and JP, 6-316525, A, and are not novel.

Thus, the above-mentioned eye drops are not beyond the prior art, and so that common matter cannot be a special technical feature in the sense of the second sentence in PCT Rule 13.2.

There is, therefore, no matter common to all the claims.

There are no other common matters of all the claims to be considered as a special technical feature in the sense of the second sentence in PCT Rule 13.2, and so there is no relationship among those different inventions in the sense of the provisions of PCT Rule 13.

Accordingly, it is clear that claims 1-8 do not satisfy the requirement of unity of invention. Those claims are found to include the following three groups of inventions.

1) The inventions of claims 1-3 and 5-7 that relate to eye drops having (a) latanoprost as the active ingredient, (b) benzalkonium chloride mixed therein as a preservative, and further, (c) a surfactant mixed therein,
2) The inventions of claims 1, 2, 5 and 6 that relate to eye drops having (a) latanoprost as the active ingredient and (b) benzalkonium chloride represented by the formula $[C_6H_5CH_2N(CH_3)_2R]Cl$ (where R is an alkyl group having C_{12}) mixed therein as a preservative, and
3) The inventions of claims 1, 2, 4-6 and 8 that relate to eye drops having (a) latanoprost as the active ingredient, (b) benzalkonium chloride mixed therein as a preservative, and further, (c) a nonionic agent to make isotonic mixed therein.

4. Consequently, this report has been established in respect of the following parts of the international application:

   ☒ all parts.

   ☐ the parts relating to claims Nos. _____ .

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.
PCT/JP03/11402

Box No. V **Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Claims	4, 8	YES
	Claims	1-3, 5-7	NO
Inventive step (IS)	Claims		YES
	Claims	1-8	NO
Industrial applicability (IA)	Claims	1-8	YES
	Claims		NO

2. Citations and explanations (Rule 70.7)

Document 1: WO, 97-23225, A1
Document 2: EP, 603800, A1
Document 3: JP, 46-26986, B
Document 4: JP, 62-277323, A

The subject matters of claims 1, 3, 5 and 7 are described in documents 1 and 2 cited in the ISR, and so do not appear to be novel or to involve an inventive step. Document 1 describes on page 11 that latanoprost is most preferable as a prostaglandin F agonist, and describes on page 12 that a consolute agent can be added. Document 1 describes in Example 1 eye drops containing a prostaglandin F agonist at 0.001%, benzalkonium chloride at 0.01%, and Polysorbate 80. Document 2 describes on page 6 that, because an ester derivative of prostaglandin has a limited water-solubility, it requires a consolute agent; and describes in Example A eye drops containing latanoprost, benzalkonium chloride and Polysorbate 80.

The subject matters of claims 2 and 6 are described in document 1 cited in the ISR, and so do not appear to be novel or to involve an inventive step.

The subject matters of claims 4 and 8 are not described in any of the documents cited in the ISR and so appear to be novel.

The subject matters of claims 4 and 8 do not appear to involve an inventive step in view of documents 1-4 cited in the ISR. The subject matters of claims 4 and 8 have a nonionic agent to make isotonic, etc., mixed therein, and so are not described in documents 1 and 2. Documents 1 and 2, however, describe in the full text that latanoprost has a limited water-solubility, and documents 3 and 4 describe in the full text that, because using a salt to make a drug into an isotonic liquid causes it to precipitate if it is a scarcely-soluble drug, glycerin, mannitol, etc., are used as an agent to make isotonic in place of salts. Accordingly, a person skilled in the art could have easily used glycerin, mannitol, etc., in place of salts as agents to make isotonic in eye drops containing latanoprost that is a scarcely-soluble drug, described in documents 1 and 2, in order to avoid the clouding of the eye drops.

Box No. VI Certain documents cited

1. Certain published documents (Rule 70.10)

Application No. Patent No.	Publication date *(day/month/year)*	Filing date *(day/month/year)*	Priority date (valid claim) *(day/month/year)*
JP 2003-292442 A [E, X]	15.10.2003	28.01.2003	29.01.2002

2. Non-written disclosures (Rule 70.9)

Kind of non-written disclosure	Date of non-written disclosure *(day/month/year)*	Date of written disclosure referring to non-written disclosure *(day/month/year)*